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FURTHERING PERU'S PUBLIC EDUCATION IN THE FACE OF FINANCIAL CHALLENGES

David Danko



Introduction

Education has been highlighted by current President Pedro Pablo Kuczynski as a key priority in Peru. The sector is plagued with difficulties caused by the nation's geographic, cultural, and socioeconomic diversity. When combined with low funding compared to regional peers and a large educational infrastructure gap, it is not surprising that both the quality of education and the equality in education have been disappointing from local and international perspectives. In fact, educational spending as a percentage of GDP in Peru is the lowest among its peers in South America, and closing the infrastructure gap would take over two decades at the current rate of investment. The poor performance of teachers and the low quality of teacher training also contribute to concerns for providing high-quality education to students. Although education coverage (as represented by enrollment) has significantly improved, a

meaningful challenge is still presented by low achievement in quality and equality across regions. The results of the 2015 Programme for International Student Assessment (PISA), an international assessment of educational quality, placed Peru 64th of 70 participating countries. Additionally, the rate of satisfactory performance in Peru's national second-grade student evaluation in reading and math is twice as high in urban areas as in rural ones, and the rate of illiteracy is three times as high in the Andean region compared to that in the coastal region.

In this article, I begin with an overview of the economic, demographic, and geographic factors that affect Peru's public education system. I then examine the purpose of educational policy since decentralization at the start of the twenty-first century and provide a description of the roles of different levels of government as background for subsequent analysis. I discuss the key issues of quality and equality, educational investment, and

teacher quality and provide data showing the contemporary state of education in context with peer countries. I conclude with recommendations to help strengthen Peru's public education system while keeping fiscal efficiency in mind.

Background

To fully understand the historical and current educational environment in Peru, it is important to understand its economic and cultural background. The explosive economic growth experienced by the country over the past decade allowed for massive increases in education investment (Twanama) and major improvements in enrollment and infrastructure within the sector. However, it is important to understand that although reductions in poverty and inequality have been made, they continue to be fundamental issues. The 2015 poverty rate of 22 percent is far below the near 60 percent level of 2004. Moreover, the Gini coefficient (an international measure of income inequality) of 44.1 in 2014 is an improvement over 51.2 a decade before and compares favorably to the indices of such regional peers as Colombia (53.5), Chile (50.5), and Mexico (48.2). However, it is still well above the Organisation for Economic Co-Operation and Development (OECD) average of 31.8 (World Bank, 2017). Despite this progress, poverty remains a major issue, most deeply rooted among the people of indigenous origin who primarily live in rural areas. In the arid Andean highlands, where a majority of the indigenous Quechua and Aymara peoples live, the 2015 poverty rate as calculated by Peru's National Institute of Statistics and Informatics was 32.5 percent. This is more than twice the 13.8 percent rate seen in the more urbanized coastal region. This geographic inequality is more clearly shown by the rate of extreme poverty, which at 9.2 percent in the Andean highlands is over ten times the 0.9 percent rate in the coastal regions (Instituto Nacional de Estadística e Informática).

The multiculturalism and diverse geography of Peru also add complexity to the issue of education in the country. Although the official language is Spanish, Peru is a multilingual nation where Quechua, Aymara,

and other aboriginal languages have official status ("Political Constitution of Peru," Article 48). Although the exact number of spoken languages in Peru remains subject to debate, nearly 60 are argued to exist, and most of these are aboriginal languages spoken predominantly in the central Andean mountains and in the Amazonian forest regions. Unfortunately, limitations found in native languages cause many indigenous people to have difficulty expressing the abstract concepts necessary in modern education, resulting in their lower educational achievement (D'Andrea, p. 6). Additionally, the large number of difficult-to-reach communities in the Andean and Amazon regions causes a major headwind for creating equal educational opportunities for rural citizens. In one example, published by *IPS News* in 2011, some teachers had to teach 70 students at a time in one-room schoolhouses and had to travel two or three days to get to their jobs (Salazar). As noted in anthropologist María García's 2005 book on indigenous citizens in Peru, one teacher who was interviewed stated that it is rare for a teacher to be in a remote location by his or her own choice. And some teachers stationed in these regions often resent that they could not secure a position in an urban school or even one in a village or town (García, p. 117).

Furthermore, the divide between urban and rural Peru is another source of inequality among the population. The influx of rural migrants into the urban centers of Peru during the twentieth century has led to a demographic transformation, causing Peru to become a highly urbanized country where (as of 2015) 78.6 percent of the population live in urban areas (*The World Factbook*). Although this transition has been a major factor in the development of political stability, citizenship, a modernized economy, and a more diverse middle class, it has also come to represent a clear divide with respect to economic opportunity, access to public services, and educational achievement between rural and urban residents ("The Migrant Nation").

An Overview of Educational Policy

Peru entered the twenty-first century as Alberto Fujimori's authoritarian regime

was coming to an end with his resignation in November 2000. The subsequent democratic transition brought about a period of dialogue leading to the nation's decision to begin decentralizing its educational policy by delegating responsibility across national, regional, and local governments. The purpose of decentralization in public education was to ensure respect for and awareness of cultural differences in public decision making and to ensure universal access to quality education while reducing the disparities between public and private and between rural and urban schools.

The results of the OECD 2000 PISA, a worldwide study of 15-year-old students' scholastic performance in mathematics, science, and reading, raised national concern over the state of Peru's education system. Peru's average score was the lowest of all 41 participating countries and led to the Peruvian government declaring a state of emergency for the nation's education. Following this assessment, the Social Pact of Reciprocal Commitments for Education was recommended by a broad multiparty and civil society consensus and was approved and implemented in the educational plan for 2004–2006 (Aragon and Vegas, p. 17). The main objectives included fostering a national movement directed toward improving the quality of learning, increasing professional development for teachers, and increasing the educational budget.

As Peru began decentralization, both the quality of and inequality in education became key foci of policy makers, and the reform led to an overhaul of the existing system. The national government took on a more political than administrative role (without schools directly under its responsibility) (UNESCO, p. 45), and its new goal became to monitor and evaluate the national education system, to define the responsibilities to be delegated to regional and local governments, and to develop policy that favors disadvantaged regions (UNESCO, p. 46). These goals were realized with the passage of General Education Law No. 28044 in 2003. This law governs the decentralized pre-university education system in the country and establishes two important organizations at the national level: the Ministry

of Education and its autonomous body, the National Education Council. Furthermore, the roles for Regional Education Offices (REOs) and for Local Education Management Units (LEMUs) are defined and further expanded on within their own respective governing laws. This decentralized structure created four levels of administration in Peru's public education system: Ministry of Education, REOs, LEMUs, and individual schools.

Roles in Peru's Decentralized System

Educational Planning and Policy

The goal of educational planning is to set the objectives to be achieved and to determine the course of actions needed to reach them. For Peru, the education plan is guided by the Proyecto Educativo Nacional (National Education Project) 2021. The plan was implemented in 2007 following a resolution signed by former President Alan García and has stayed in place since, with an annual "Balance and Recommendations" update presented by the National Education Council to the Ministry of Education. The national education plan is composed of four main goals: (1) revaluation of the teaching profession, (2) improvement of the quality of learning for all, (3) modernization of decentralized educational management, and (4) closing of the gap in educational infrastructure. On the subnational level, the REOs and LEMUs are tasked with designing, implementing, and evaluating their own education plans in accordance with the central National Education Project ("Ley General de Educación. Nro. 28044," Article 80). Proyectos Educativos Regionales (Regional Education Plans) outline the goals of Peru's individual regions. While policy making is spearheaded by the Ministry of Education, its coordination with local and regional governments determines the necessary policy decisions (Ministerio de Educación).

Curriculum Development

The Ministry of Education's role in curriculum development is to create a national basic curriculum for the education system covering preschool, primary, and secondary

education (“Ley General de Educación. Nro. 28044,” Article 33). Moreover, the Ministry of Education must establish technical guidelines for the diversification of the national basic curriculum. REOs and LEMUs then complete the diversification process by incorporating content relevant to the socio-cultural, economic, productive, and ecological situations of their students (“Ley Orgánica de Gobiernos Regionales. Nro. 27867,” Article 47). This diversification process is essential to the national mission of providing an intercultural approach to education (“Ley General de Educación. Nro. 28044,” Article 10).

Administration

Decentralization resulted in the transfer of administrative roles from the Ministry of Education to individual educational institutions, with LEMUs guiding and supervising the institutions within their region as well as providing them with logistical support. The hiring, promoting, and renewal of contracts for teachers and administrative personnel are handled at the individual educational institution level, with guidance from the respective LEMU (“Ley General de Educación. Nro. 28044,” Articles 68, 74).

The State of the Basic Education System

Peru’s compulsory Basic Education System comprises one year of preschool (age five), six years of primary school (ages 6 to 11), and five years of secondary school (ages 12 to 16) (“Ley General de Educación. Nro. 28044,” Article 36). Enrollment rates across the nation’s primary and secondary schools have seen dramatic increases as the country has entered a period of economic growth and more students have gained access to education. The current rates for both primary and secondary levels place Peru competitively among its regional peers (Table 1), with a net primary enrollment rate of 94 percent in 2015. This places Peru slightly above the Latin American and Caribbean (LAC) average of 92 percent and slightly below the OECD average of 96 percent. Additionally, primary school enrollment does not show significant inequality based on the

urbanization level of the school’s location or the student’s gender (OECD, “Multi-dimensional Review of Peru...,” p. 60). The secondary school net enrollment rate of 79 percent in 2013 is slightly below the LAC average but shows significant improvement from the 68 percent rate in 2004. However, its stagnation since 2009 and its level compared to the OECD average of 90 percent remain disappointing. Progress is being made in the completion rate of secondary education for those aged 17 to 19, which has increased from 54 percent in 2005 to 72 percent in 2015 due to a decrease in dropout rates. Additionally, the transition rate to higher education has risen from 23 percent in 2005 to 37 percent in 2015 (ESCALE).

Although according to these key statistics for enrollment, primary school completion, and literacy the Peruvian education system compares favorably with peers, a deeper look makes it clear that the quality of education in Peru continues to be a more serious issue than the coverage. The latest Student Census Evaluation, conducted by the Ministry of Education in 2015, reported that only 50 percent of second graders achieved satisfactory performance in reading comprehension, whereas only 27 percent of students reached the same level in mathematics. From an international perspective, the results are just as concerning. In the 2015 PISA, Peru placed 64th of 70 participating countries in math, reading, and science (Table 2). The country’s scores of 387, 398, and 397, respectively, are below those of such regional peers as Colombia, Chile, and Brazil and are well below the OECD average of around 500. However, Peru has shown significant improvement from the previous PISA conducted in 2012 (OECD. *PISA 2015 Results...*, pp. 44–47).

Although primary school enrollment rates are similar across geographical regions and urbanization levels, differences occur when comparing secondary school enrollment and educational achievement. Table 3 highlights the dramatic impact that location plays in Peru’s education system. The scores on the 2015 Student Census Evaluation showed that although 55 percent of second-grade urban students achieved satisfactory performance in reading, only 19 percent of rural students

Table 1
Comparative Latin American Education Data

Country	Net Enrollment Rate (%)		Primary School Completion Rate (%)*	Literacy Rate (%)
	Primary	Secondary		
Chile	94	88	95	97.5
Mexico	95	67 (2012)	105	95.1
Peru	94	78	99	94.5
Brazil	92	83	N/A	92.6
Colombia	91	78	100	94.7

*A completion rate over 100% can be a symptom of late entry, grade repetition, or an enrollment push in the past.

Sources: UIS.Stat; *The World Factbook*.

Table 2
Comparative Latin American 2015 PISA Mean Scores

Country	Mathematics	Reading	Science
Chile	423	459	447
Colombia	390	425	416
Mexico	408	423	416
Brazil	377	407	401
Peru (2015)	387	398	397
Peru (2012)	368	384	373

Source: OECD. *PISA 2015 Results...*

Table 3
**Enrollment, Literacy, and Years of Study
by Urbanization and Geographical Region**

	Net Secondary School Enrollment (%)	Literacy Rate, Age 15 and Over (%)	Average Years of Study, Age 15 and Over
Urbanization level			
Urban	87.4	96.4	10.7
Rural	76.5	85.2	7.6
Geographical region			
Coast	86.8	96.9	10.7
Andes	84.1	89.2	9.3
Amazon	76.1	92.8	8.8

Source: Instituto Nacional de Estadística e Informática (INEI).

did the same. A similar differential was found in mathematics, where 29 percent and 12 percent of urban and rural students achieved satisfactory performance, respectively. The areas that performed best in math and reading were almost exclusively coastal regions, whereas the lowest scoring regions came primarily from the Amazon and the Andes. Additionally, the study took into account students' socioeconomic characteristics, such as education level of parents, quality of housing, and access to basic services. Unsurprisingly, a significant correlation was found between lower socioeconomic characteristics and lower scores (Ministerio de Educación).

The Role of Private Education

Peru's private education system has come to constitute a significant part of the overall educational system. In 1998 Legislative Decree No. 882 was passed to increase private investment in education by allowing the operation of private schools on a for-profit basis and by offering tax credits to private education investors. The result of the policy was a significant increase in the growth of private schools within the country (Balarin, pp. 7–8). Enrollment in private primary and secondary education increased from 13 percent in 1998 to 26 percent in 2014. Growth has been most notable in Lima, where it has reached almost 50 percent of overall enrollment (Ministerio de Educación). The result of this growth is a large range of private schools, which target not only wealthy elites but also the emergent middle class as well as poor citizens (Balarin, p. 9). The diversity of private education institutions makes comparing educational achievement between private and public schools complex. In general, results from the most recent national assessment in Peru show that private schools located in areas with high concentrations of poorer pupils have similarly low (and sometimes even lower) scores as public schools in the same areas. Increasing educational stratification, which is the tendency of schools to serve students of equivalent socioeconomic status, is a problem within Peru's public school system. However, balances in funding and direct regulation ensure a marginally more diverse environment compared to private

schools, which range from expensive schools serving the wealthiest citizens of Lima to low-fee schools that offer an education of sub-standard quality to poor families (Balarin, pp. 10–13).

Education Funding and the Infrastructure Gap

Government spending in general is divided into two categories, current spending and capital spending (investment). In educational spending, current spending provides the resources for teacher wages, operational costs, etc., while capital spending is allocated to infrastructure investment such as new schools and renovations. The vast majority of funding for Peru's public education system comes from the national budget, which funds the central Ministry of Education and distributes most of its allocation to Peru's regional governments. Peru's educational spending is below that of other Latin American countries, and the system currently has a massive gap in its educational infrastructure, negatively affecting educational quality and contributing to geographical inequality. While the investment in education as a percentage of GDP averaged around 5.3 percent for the OECD and around 4.1 percent for LAC countries over the period from 1999 to 2013, Peru's average was only 3.0 percent (UIS.Stat). However, significant effort was made under former President Ollanta Humala's administration to increase investment in education, as shown by Peru's educational spending as a percent of GDP rising from 2.8 percent in 2011 to 3.9 percent in 2016 (Twanama). This amount is still well below regional peers, as shown in Table 4. Educational spending will continue to be a priority under President Kuczynski, who has promised to reach 6 percent of GDP by 2021 (Twanama). Additionally, the expenditure per student at \$1,600 (purchasing power parity [PPP]) in 2015 shows significant room for improvement, because higher per-student educational spending is correlated with higher student performance, up to \$8,000 (PPP) per student (Vegas and Coffin, p. 289). One reason for the disappointing pace of

Table 4
Comparative Government Expenditure on Education

Country	Government Expenditure on Education (% of GDP)	Government Expenditure per Student (PPP)	Tax Revenue (% of GDP)
Brazil	5.99 (2013)	\$3,169 (2013)	32.0
OECD	5.60 (2014)	\$8,952 (2014)	34.3
Mexico	5.31 (2014)	\$2,427 (2013)	17.4
Colombia	4.49 (2015)	\$2,451 (2015)	20.8
Chile	4.92 (2015)	\$3,161 (2014)	20.6
Peru	3.98 (2015)	\$1,584 (2015)	17.1

Sources: UIS.Stat; OECD.Stat.

educational spending can be attributed to the country's weak government revenues. According to the OECD, structural weaknesses in the tax system pose significant bottlenecks to the reduction of educational gaps and result in Peru having one of Latin America's lowest tax revenues as a percentage of GDP, as shown in Table 4 (OECD, "Multi-Dimensional Review of Peru...", p. 35).

The 2016 government budget allocated \$7.3 billion toward education, of which approximately \$1 billion was used for infrastructure investment (Twanama). At this rate, closing the educational infrastructure gap, which is estimated to be around \$18 billion, would take close to 20 years. However, the Ministry of Education intends to double the rate of investment to nearly \$2 billion per year to accomplish this within the next decade (Twanama). This goal will be met through higher government expenditures, public-private partnerships, and the Obras por Impuestos (Works for Taxes) program, which reduces tax payments for firms investing in infrastructure. The need to close the gap in educational infrastructure is widely apparent. In 2016, only 44.4 percent of public schools had access to potable water, drainage, and electricity (ESCALE). Moreover, the Ministry of Education census has found that 13.2 percent of public educational facilities require total repair, and fewer than 40 percent of primary schools have Internet access.

The Teaching Career

The poor performance of teachers in Peru is widely recognized as one of the most important factors contributing to low educational quality (Rivero, p. 1). There exist two types of teachers in the public education system: appointed and contracted teachers. The benefit of appointment is not only higher pay but also the ability to teach in a school for as long as the teacher desires. On the other hand, contracted teachers may be moved annually and are typically assigned to where appointed teachers do not want to work (García, p. 117). One factor that has led to a dramatic dilution of teacher quality has been the rapid increase in hiring coinciding with the expansion of coverage in the education system since the second half of the twentieth century. From 1959 to 2002 the population of Peru almost tripled, while school enrollment and the number of teachers increased by a factor of six. This dramatic increase in the number of teachers has led not only to a decrease in the workload of teachers but also a decrease in teacher pay (Cotlear, p. 18). Teacher salaries are currently only one-third of what they were 40 years ago on a real basis (World Bank, "Toward High-quality Education in Peru...", p. 56); and as lower wages came about, unions led initiatives to allow teachers to take second jobs to make up their loss of income. A 2006 World Bank report stated that about two-thirds of teachers have a second job; and governments

have accommodated this need for additional income through increased job tenure security, shortened working hours, and reduced work discipline (Cotlear, p. 19).

During the 1990s, another significant change had a major impact on teacher quality. The training of teachers has moved from regular universities to pedagogical institutes considered non-university, where teachers earn a degree more like a technical degree than a bachelor's degree. This has led to the profession being devalued and lower pay due to teachers' reduced status (D'Agostino). This decline in the perceived social class of teachers has also led to a recent effort by policy makers to increase teacher compensation to elevate the status of the teaching career (World Bank, "Toward High-quality Education in Peru...", p. 56). The 2015 monthly average teacher income of 1,400 soles and 2,000 soles for contracted and appointed teachers, respectively, is a roughly 45 percent increase from 2011; however, the appointed teacher figure is still only half the Ministry of Education's goal of 4,000 soles per month by 2021 (Twanama). Although the proportion of teachers in rural areas who are appointed (41.6 percent) is catching up to the proportion of teachers in urban areas who are appointed (45.6 percent), there has been a concerning decrease in the overall proportion of appointed teachers, which has fallen from 55.9 percent in 2011 to 45.5 percent in 2016 (ESCALE). Additionally, budgetary restrictions put in place during the 1990s suspended new appointments, leading to an increase in unqualified and low-performance teachers in the basic education system (Guigale et al, p. 712). This led to the number of teachers with a pedagogical degree decreasing from 81 percent in 1980 to 49 percent in 1990 (Cotlear, p. 229). However, significant progress has been made since. In 2016, 83.9 percent and 83.0 percent of primary and secondary teachers, respectively, had a pedagogical degree, and there was minimal difference in the percentage of teachers with a pedagogical degree in rural and urban areas (ESCALE). On the other hand, these numbers are difficult to take at face value because of the prevalence of institutions that offer very poor quality teacher training (Rivero, p. 3) or that falsify degree titles (Cotlear, p.

229). In summary, as Rivero notes, "The poor quality of teacher training, low performance levels, limited and inadequate income levels and a regulatory framework that does not encourage professionalism [all] contribute to the problem" of low-quality teachers in Peru's education system (Rivero, p. 3).

How to Raise Standards of Quality and Equality

In 2007 the World Bank released a thorough country study on education in Peru titled "Toward High-quality Education in Peru: Standards, Accountability, and Capacity Building." The study recommended implementing clear standards measuring all public school students as well as educational services and processes. The study also stated that once standards are developed, accountability needs to be improved to hold teachers and administrators, through pressure and incentives, to expectations. Finally, once standards and accountability systems are functioning, focus should be directed toward greater support through more practical teacher training and an increased supply of high-quality learning materials.

Since the release of the study, the Ministry of Education has made progress formulating policy enabling some of the recommendations made to be fulfilled. The Student Census Evaluation, for example, began in 2007 and has since measured the annual performance of second-grade students. The *Estadística de la Calidad Educativa* (ESCALE) publishes annual measurements in education relating to quality, resources, student progress, and teacher quality. However, for Peru to build on its early successes, my research suggests that it needs to further expand its efforts in the following three areas: teacher accountability, parental involvement, and educational spending.

Teacher Accountability

The benefit of continued investment in education, whether in infrastructure or resources, is heavily determined by the quality of teachers in educational institutions. Supplying quality textbooks

and other learning resources benefits students only if teachers use them in their curricula. Greater emphasis must be placed on increasing the quality of teachers hired by educational institutions, creating standards by which all teachers are measured and held accountable, and increasing the influence of administrators.

Recent progress in teacher training has been made through improved measures of accountability for teacher training programs. The creation of the National System of Evaluation, Accreditation and Certification of Education Quality in 2006 was a step in the right direction to improve teacher training by requiring accreditation of all teacher training colleges (Rivero, p. 3). Additionally, it is important for teacher training programs to not only offer more practical experience for its trainees but also work toward removing the anti-poor bias that is prevalent in many teachers in Peru. Teacher training should be region-specific, incorporating local economics and social life with a particular focus on an improvement in bilingual education. Additionally, incentives should be made to encourage high-performing teachers to work in remote locations through higher pay or career path acceleration. Standards must be strengthened universally by requiring a more rigorous merit-based assessment for appointment, measuring teacher days absent, providing student and parent feedback, and using student test scores to hold teachers accountable. The current goal of increasing overall teacher compensation is essential to attract more higher-quality teachers; however, a revision of the compensation structure to increase the proportion of incentive pay used to reward teachers who meet or exceed standards is also essential. Although this requires greater investment in education, analysis has shown that the student-teacher ratio in Peru is below justifiable levels, increasing the necessary salary costs (World Bank, "Toward High-quality Education in Peru," p. 32). Thus, instead of increasing the teacher-student ratio, the focus should be on increasing the quality of teachers and incentivizing them to provide high-quality education.

Building Involvement and Responsibility in Parents and Students

Growing awareness of the importance of education among students, parents, and communities should be a focus of the Ministry of Education in an effort to increase overall involvement and responsibility for student performance. Parental involvement in education has been shown to increase performance in students and to reduce dropout rates (Anderson and Minke, p. 311). One potential strategy for Peru could be developing a model of parental involvement similar to the Apoyo a la Gestión Escolar (Support for School Management [AGE]) in Mexico. The Mexican public school system faces issues similar to those in Peru, such as a large, rural, and diverse indigenous population in poorer states; however, Mexico has a much higher level of educational investment and has achieved higher student test scores. The AGE program provides parent associations in many poor schools with a grant of roughly \$6 per student per year. Although the size of the grant is very small, evidence shows that the program has led to increased participation and commitment by parents to their children's education. Moreover, when the size of the grant doubled, participation increased, the dropout rate fell, and scores in Spanish and mathematics increased by approximately 0.25 standard deviations at the end of the first year (Gertler et al., pp. 20–22). Using a program like AGE would create larger and stronger parent associations, and continued support through parent association training would bring about greater parent involvement. Furthermore, the same study that examined the effectiveness of AGE also found that schools with parent associations receiving training increased combined test scores by 0.43 standard deviations compared to schools where parents did not receive training (Gertler et al., p. 23). These programs can also benefit parents by teaching proper methods of private school selection to reduce the problem of low-fee private schools providing substandard education. Additional focus on building student awareness by implementing fact-based lessons on how education improves quality of life into the basic curriculum would

also help students take greater responsibility for their own education.

Continued Growth in Investment

The current level of investment in education must grow in order to bring Peru's level of spending in line with that of peer countries. This is a complex issue that also depends on Peru's ability to strengthen its tax system, and greater emphasis must be placed on researching the effectiveness of spending in the Peruvian education system. The recent investment in greater access to initial pre-primary education is a commendable initiative because of the large impact early education has on student performance as measured by the PISA (OECD, "Multi-dimensional Review of Peru," p. 60); programs relating to child nutrition have also been highly successful (Waters et al.).

A recent study by Cuesta and colleagues of the University of Minnesota reviewed the results from 39 studies on the impact of school infrastructure on student outcomes. The overall conclusion was that the evidence base is not particularly strong, and results vary widely across different countries and regions. There is some evidence from urban and rural regions in Latin America that libraries, electricity, and computers have a positive effect on student learning and that the construction of new schools increases time spent in school (Cuesta et al., pp. 125–26). However, it is important for Peru to engage

in more high-quality research through cost-effectiveness comparisons in order to prioritize investment objectives as it continues to work toward reducing the infrastructure gap. The Works for Taxes initiative, which reduces the tax liability of Peruvian companies in return for infrastructure investment, can be a way to bring private funding to this research, allowing companies to pay a portion of their tax bills in a way that benefits public education and increases their social responsibility.

Conclusion

The landscape of education in Peru has been changing since before decentralization was implemented, although in recent years the issue has become a key priority. The impact of rapid growth in enrollment during the twentieth century has greatly influenced the education system. Recently, focus has shifted to raising standards of quality and equality as enrollment has become competitive with that of peer countries. Progress has been made, as seen by the rising scores on both domestic and international assessments of educational quality and by increases in educational spending; however, continued progress must be made for Peru to become competitive with its international peers. Teachers, parents, students, and policy makers must work together and take responsibility for their roles in furthering the nation's education system, which is critical for the continued development of Peru.

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